CP3N

3 SERIES

3-Series Control System®

- *Enterprise-class control system*
- *3-Series® Control Engine — substantially faster and more powerful than other control systems*
- *Exclusive modular programming architecture*
- *Onboard 512MB RAM & 4GB Flash memory*
- *Expandable storage up to 1TB*
- *Rear panel memory card slot*
- *High-speed USB 2.0 host port*
- *Industry-standard Ethernet and Cresnet® wired communications*
- *Control Subnet — provides a dedicated local network for Crestron® devices*
- *XPanel with Smart Graphics™ computer and Web based control*
- *iPhone®, iPad®, and Android™ control app support*
- *Crestron Fusion® Enterprise Management Software support*
- *SNMP remote management support*
- *One RS-232/422/485 COM port with hardware and software handshaking*
- *Two RS-232 COM ports with software handshaking only*
- *Eight IR/serial, eight relay, and eight Versiport I/O ports*
- *Programmable event scheduling with astronomical time clock*
- *Native BACnet™/IP support [2]*
- *Installer setup via Crestron Toolbox™ software or Web browser*
- *C# and symbol based programming environments*
- *Full Unicode (multi-language) support*
- *Increased network throughput and security*
- *Secure access through full user/group management or Active Directory integration*
- *Hardware level security using 802.1X authentication*
- *IIS v.6.0 Web Server*
- *IPv6 ready*
- *Front panel USB computer console port*
- *1-space rack-mountable*

The Crestron® CP3N is an enterprise-class control system with a dedicated Control Subnet port. Featuring the 3-Series® control engine, the CP3N forms the core of any modern networked home or commercial building, managing and integrating all the disparate technologies throughout your facility to make life easier, greener, more productive, and more enjoyable.

3-Series® Control Systems

Today's commercial buildings and custom homes comprise more technology than ever before, and all these systems need to be networked, managed, and controlled in fundamentally new ways. The IP based 3-Series platform is engineered from the ground up to deliver a network-grade server appliance capable of faithfully handling everything from boardroom AV and home theater control to total building management.

3-Series embodies a distinctively robust, dynamic, and secure platform to elevate your system designs to higher levels of performance and reliability. Compared to other control systems, Crestron 3-Series provides a pronounced increase in processing power and speed with more memory, rock solid networking and IP control, and a unique modular programming architecture.

Modular Programming Architecture

Designed for enhanced scalability, the CP3N affords high-speed, real-time multi-tasking to seamlessly run multiple programs simultaneously. This exclusive modular programming architecture lets programmers independently develop and run device-specific programs for AV, lighting, shades, HVAC, security, etc., allowing for the optimization of each program, and allowing changes to be made to one program without affecting the whole. Even as your system grows, processing resources can easily be shifted from one 3-Series processor to another without rewriting any code. The end benefit is dramatically simplified upgradability with minimal downtime, whether implementing changes on site or remotely via the network.

Robust Ethernet & IP Control

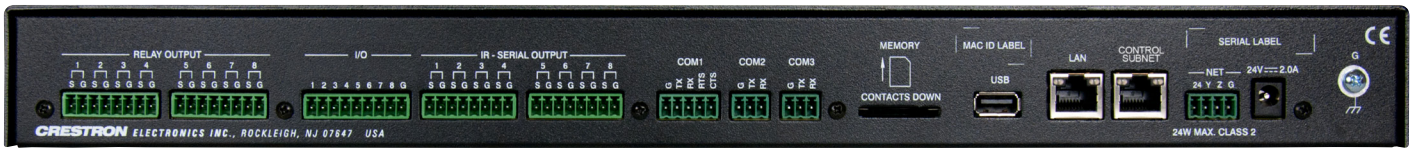
IP technology is the heart of 3-Series, so it should be no surprise that its networking abilities are second to none. Gigabit Ethernet connectivity enables integration with IP-controllable devices and allows the CP3N to be part of a larger managed control network. Whether residing on a sensitive corporate LAN, a home network, or accessing the Internet through a cable modem, the CP3N provides secure, reliable interconnectivity with IP-enabled touch screens, computers, mobile devices, video displays, media servers, security systems, lighting, HVAC, and other equipment — whether on premises or across the globe.

Dedicated Control Subnet

The Crestron Control Subnet is a Gigabit Ethernet network dedicated to Crestron devices. Via the CP3N's Control Subnet port, an installer may simply connect a single touch screen or wireless gateway, or add a Crestron PoE switch (CEN-SW-POE-5 or CEN-SWPOE-16)[1] to handle multiple touch screens, gateways, AV components, and other devices. Auto-configuration of the entire subnet is performed by the CP3N, discovering each device and assigning IP addresses without any extra effort from the installer.

A separate LAN port on the CP3N provides a single-point connection to the customer's LAN, requiring just one IP address for the complete control system. The LAN port allows full interconnectivity between devices on

CP3N 3-Series Control System®



CP3N – Rear View

the local subnet with other devices, systems, servers, and WAN/Internet connections outside the local subnet. For sensitive applications that require absolute security, the entire Control Subnet can be completely isolated from the customer's LAN using Isolation Mode.

Control Apps & XPanel

Years ago, Crestron pioneered the world's first IP-based control system unleashing vast new possibilities for controlling, monitoring, and managing integrated systems over a LAN, WAN, and the Internet. Today, Crestron offers more ways than ever to control your world the way you want. Using a computer, smartphone, or tablet device, Crestron lets you control anything in your home or workplace from anywhere in the world.

Native to every 3-Series control system, Crestron XPanel technology transforms any laptop or desktop computer into a virtual Crestron touch screen. Crestron control apps deliver the Crestron touch screen experience to iPhone®, iPad®, and Android™ devices, letting you safely monitor and control your entire residence or commercial facility using the one device that goes with you everywhere.

Crestron Fusion® Enterprise Management

Crestron Fusion provides an integrated platform for creating truly smart buildings that save energy, enhance worker productivity, and prolong the life-span of valuable equipment. As part of a complete managed network in a corporate enterprise, college campus, convention center or any other facility, the CP3N works integrally with Fusion RV® Remote Asset Management Software to enable remote scheduling, monitoring, and control of rooms and technology from a central help desk. Fusion EM® Energy Management Software enables organizations to reduce energy consumption by tracking real-time usage and automating control of lighting, shades, and HVAC.

SNMP Support

Built-in SNMP support enables integration with third-party IT management software, allowing network administrators to manage and control Crestron systems on the network in an IT-friendly format.

Cresnet®

Cresnet provides a dependable network wiring solution for Crestron keypads, lighting controls, shade motors, thermostats, occupancy sensors, and other devices that don't require the higher speed of Ethernet. The Cresnet bus offers easy wiring and configuration, carrying bidirectional communication and 24VDC power to each device over a simple 4-conductor cable. To assist with troubleshooting, the CP3N includes our patent-pending Network Analyzer which continuously monitors the integrity of the Cresnet network for wiring faults, marginal performance, and other errors.

Onboard Control Ports

In addition to Ethernet, the CP3N includes three bidirectional COM ports and eight IR ports to interface directly with all of your centralized AV sources, video displays, and other devices. Eight programmable relay ports are included for controlling projection screens, lifts, power controllers, and other contact-closure actuated equipment. Eight "Versiport" I/O ports enable the integration of power sensors, motion detectors, door switches, alarms, or anything else that provides a dry contact closure, low-voltage logic, or 0-10 Volt DC signal.

BACnet™/IP

Native support for the BACnet/IP communication protocol provides a direct interface to third-party building management systems over Ethernet, simplifying integration with HVAC, security, fire & life safety, voice & data, lighting, shades, and other systems. Using BACnet/IP, each system runs independently with the ability to communicate together on one platform for a truly smart building.[2]

SPECIFICATIONS

Control Engine

Crestron® 3-Series®; real-time, preemptive multi-threaded/multitasking kernel; Transaction-Safe Extended FAT file system; supports up to 10 simultaneously running programs

Memory

SDRAM: 512 MB
Flash: 4 GB
Memory Card: supports SD and SDHC cards up to 32 GB
External Storage: supports USB mass storage devices up to 1 TB

Communications

Ethernet: 10/100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, industry-standard TCP/IP stack, UDP/IP, CIP, DHCP, SSL, TLS, IEEE 802.1X, SNMP, BACnet™/IP[2], IPv4 or IPv6, Active Directory authentication, IIS v.6.0 Web Server, SMTP e-mail client
Control Subnet: 10/100/1000 Mbps Ethernet, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP server, DNS Server, port forwarding, Isolation Mode
Cresnet®: Cresnet master mode
USB: Supports USB mass storage class devices via rear panel USB 2.0 host port, supports computer console via front panel USB 2.0 device port
RS-232/422/485: For 2-way device control and monitoring, all ports support RS-232 up to 115.2k baud with software handshaking, one port also supports hardware handshaking, RS-422, and RS-485

CP3N 3-Series Control System®

IR/Serial: Supports 1-way device control via infrared up to 1.2 MHz or serial TTL/RS-232 (0-5 Volts) up to 115.2k baud

Connectors & Card Slots

RELAY OUTPUT 1 – 8: (2) 8-pin 3.5mm detachable terminal blocks comprising (8) normally open, isolated relays;
Rated 1 Amp, 30 Volts AC/DC; MOV arc suppression across contacts

I/O 1 – 8: (1) 9-pin 3.5mm detachable terminal block comprising (8) "Versiport" digital input/output or analog input ports (referenced to GND);
Digital Input: Rated for 0-24 Volts DC, input impedance 20k Ohms, logic threshold >3.125V low/0 and <1.875V high/1;
Digital Output: 250mA sink from maximum 24 Volts DC, catch diodes for use with "real world" loads;
Analog Input: Rated for 0-10 Volts DC, protected to 24 Volts DC maximum, input impedance 21k Ohms with pull-up resistor disabled;
Programmable 5 Volts, 2k Ohms pull-up resistor per pin

IR - SERIAL OUTPUT 1 – 8: (2) 8-pin 3.5mm detachable terminal block comprising (8) IR/Serial output ports;
IR output up to 1.2 MHz;
1-way serial TTL/RS-232 (0-5 Volts) up to 115.2k baud

COM 1: (1) 5-pin 3.5mm detachable terminal block;
Bidirectional RS-232/422/485 port;
Up to 115.2k baud; hardware and software handshaking support

COM 2 – 3: (2) 3-pin 3.5mm detachable terminal blocks;
Bidirectional RS-232 ports;
Up to 115.2k baud; software handshaking support

MEMORY: (1) SD memory card slot;
Accepts one SD or SDHC card up to 32 GB for memory expansion

USB: (1) USB Type A female; USB 2.0 port for storage devices

LAN: (1) 8-wire RJ45 jack;
10Base-T/100Base-TX/1000Base-T Ethernet port;
Connects to the customer's LAN

CONTROL SUBNET: (1) 8-wire RJ45 jack;
10Base-T/100Base-TX/1000Base-T Ethernet port;
Provides a dedicated local network for Crestron devices

NET: (1) 4-pin 3.5mm detachable terminal block, Cresnet master port;
Outputs power to Cresnet devices if a power pack is connected to the 24VDC power input jack;
Receives Cresnet network power if no power pack is connected to the 24VDC power input jack;
See "Power Requirements" for additional specifications

24VDC 2.0A: (1) 2.1 x 5.5 mm DC power connector;
24 Volt DC power input; PW-2420RU power pack included;
Passes through to NET port to power Cresnet devices;
See "Power Requirements" for additional specifications

G: (1) 6-32 screw, chassis ground lug

COMPUTER (front): (1) USB Type B female;
USB 2.0 computer console port (6 ft cable included);
For setup only

Controls & Indicators

PWR: (1) Green LED, indicates operating power supplied from power pack or Cresnet network
NET: (1) Amber LED, indicates communication with the Cresnet system
MSG: (1) Red LED, indicates control system has generated an error message
HW-R: (1) Recessed pushbutton for hardware reset
SW-R: (1) Recessed pushbutton for software reset
LAN (rear): (2) Bi-color green/amber LEDs, left LED indicates Ethernet link status and connection speed, right LED indicates Ethernet activity
CONTROL SUBNET (rear): (2) Bi-color green/amber LEDs, left LED indicates Ethernet link status and connection speed, right LED indicates Ethernet activity

Power Requirements

Power Pack: 2.0 Amps @ 24 Volts DC;
100-240 Volts AC, 50/60 Hz power pack, model PW-2420RU included

Available Cresnet Power: 24 Watts (1 Amp @ 24 Volts DC) when using power pack

Cresnet Power Usage: 15 Watts (0.625 Amp @ 24 Volts DC) when using Cresnet network power

Environmental

Temperature: 41° to 113°F (5° to 45°C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: 50 BTU/Hr

Enclosure

Chassis: Metal, black finish
Faceplate: Extruded metal, black finish, polycarbonate label overlay
Mounting: Freestanding or 1U 19-inch rack-mountable (adhesive feet and rack ears included)

Dimensions

Height: 1.70 in (44 mm) without feet
Width: 17.28 in (439 mm);
19.00 in (483 mm) with rack ears
Depth: 6.56 in (167 mm)

Weight

3.1 lb (1.42 kg)

CP3N 3-Series Control System®

MODELS & ACCESSORIES

Available Models

CP3N: 3-Series Control System®

Included Accessories

PW-2420RU: Power Pack, Desktop, 24VDC, 2A (50 Watts), Regulated, US/International (Qty. 1 included)

Available Accessories

PWE-4803RU: PoE Injector
CEN-SW-POE-5: 5-Port PoE Switch
CEN-SWPOE-16: 16-Port Managed PoE Switch
C2N-HBLOCK: Multi-type Cresnet Distribution Block
CNTBLOCK: Cresnet Distribution Block
CNSP-XX: Custom Serial Interface Cable
IRP2: IR Emitter Probe w/Terminal Block Connector
Crestron® App: Control App for Apple® iOS® & Android™
XPanel: Crestron Control® for Computers
myCrestron: Dynamic DNS Service for Crestron Systems
Fusion EM®: Energy Management Software
Fusion RV®: Remote Asset Management Software
RoomView® Express: Remote Help Desk and Resource Management Software
3-Series® BACnet™/IP Support: 3-Series Native BACnet/IP Interface License
CSP-LIR-USB: IR Learner

Notes:

1. Item(s) sold separately.
2. License required. The CP3N supports a maximum of 1000 BACnet objects when dedicated for BACnet use only. Actual capabilities are contingent upon the overall program size and complexity.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: patents.crestron.com.

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